

phakic eye with pIOLs implantation the surgery will generate then a further endothelial cell loss. We describe a new surgical approach to avoid further endothelial cell loss performing the cataract surgery with pIOLs in place. The technique uses the pIOLs as shields for endothelial cells during the cataract surgery.

Our technique involves the injection of adhesive viscoelastic such as Healon GV (Abbott Medical Optics Inc. (AMO), Santa Ana, CA) or Viscoat (Alcon, Fort Worth, TX) between the endothelium and pIOLs and a cohesive viscoelastic such as Provisc (Alcon, Fort Worth, TX) between pIOLs and lens. [Fig. 1a] We then perform anterior continuous curvilinear capsulorhexis and all the steps of the cataract surgery behind the pIOLs [Fig. 1b-d]. The pIOLs will be removed as last step before the posterior chamber IOL implant in the capsular bag.

We performed the above-described technique in 7 myopic eyes of 7 patients (mean age 46, SD 5.8) who had undergone phakic IOL implant years before (mean 6.2 years, SD 2.4). The original mean refractive error was -14.5 diopters (SD 4.0). All 7 eyes presented with late-onset anterior subcapsular cataract, probably related to IOL-crystalline lens contact. Mean endothelial count was 1950 (SD 385) cells/mm² before our combined procedure of phacomulsification, phakic IOL removal and posterior IOL implant in the bag. Pupillary dilatation was obtained with phenylephrine 10% and atropine 1% eye drops. The pupillary dilatation was wider than 6 mm in all cases. Three months post-operative, the loss of endothelial cells was not statistically significant ($P = 0.2$), the mean endothelial count being 1828 (SD 340) cells/mm².

Phacoemulsification with phakic intraocular lens

Sir,

The new-onset or the progression of lens opacity is most likely to occur after phakic intra-ocular lens (pIOL) implantation.^[1] Further more endothelial decompensation with progressive cell loss is a common complication of pIOLs implantation and a major concern during the post-operative period.^[2-4] The most common technique is to remove first the phakic IOLs, and then to perform the cataract surgery with posterior chamber IOL implant in the capsular bag. Moreover, even in uneventful cases, the micro-incision cataract surgery induces corneal endothelial cell loss similar to a standard phacoemulsification due to the ultrasonic energy as well as the fluidic currents in the eye.^[5] In

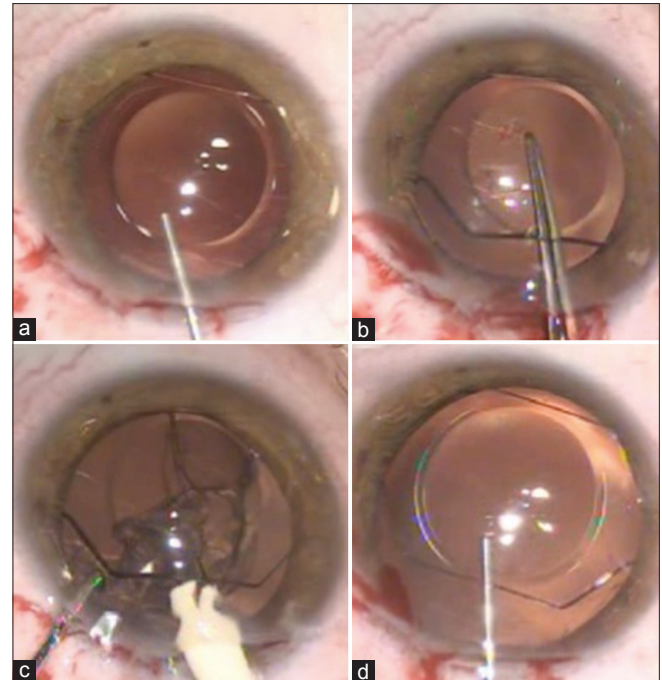


Figure 1: The technique involves the injection of adhesive viscoelastic between the endothelium and pIOLs and a cohesive viscoelastic between pIOLs and lens. (a) Then the anterior continuous curvilinear capsulorhexis, (b) phacoemulsification, (c) and aspiration of the cortex are performed behind the pIOLs. We believe that splitting in the sleeve could be generated by the contact between the sleeve and the edge of the phakic IOLs, (d) The pIOL is removed after the filling of the capsular bag with cohesive viscoelastic

The best corrected visual acuity, assessed on Snellen chart pre-operatively and three months post-operatively, improved from 0.35 (SD 1.5) to 0.85 (SD 2).

This surgical technique is safe for phacoemulsification in patients with phakic intra-ocular lenses and corneal decompensation, which may prevent further endothelial cell loss.

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References

1. Chen LJ, Chang YJ, Kuo JC, Rajagopal R, Azar DT. Metaanalysis of cataract development after phakic intraocular lens surgery. *J Cataract Refract Surg* 2008;34:1181-200.
2. Akcay L, Eser I, Kaplan AT, Taskiran-Comez A, Dogan OK. Phakic anterior chamber lenses in very high myopia: An eighteen-month follow-up. *Clin Experiment Ophthalmol* 2011;40:275-81.
3. Bozkurt E, Yazici AT, Yildirim Y, Alagoz C, Goker H, Yilmaz OF. Long-term follow-up of first-generation posterior chamber phakic intraocular lens. *J Cataract Refract Surg* 2010;36:1602-4.
4. Mittal V, Mittal R, Singh D. Simultaneous bilensectomy and endothelial keratoplasty for angle-supported phakic intraocular lens-induced corneal decompensation. *Indian J Ophthalmol* 2011;59:314-7.
5. Wilczynski M, Drobniewski I, Synder A, Omulecki W. Evaluation of early corneal endothelial cell loss in bimanual microincision cataract surgery (MICS) in comparison with standard phacoemulsification. *Eur J Ophthalmol* 2006;16:798-803.

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